

INSTITUTE FOR FISHERIES RESEARCH
UNIVERSITY MUSEUMS
UNIVERSITY OF MICHIGAN
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Report 23 (First Installment)

REPORT ON DEATH OF FISHES IN ROUND
LAKE (NORTH MANISTIQUE LAKE), LUCE CO.

The following report to the Lansing office on the death of fishes in Round or North Manistique Lake, Luce County, was sent by Julius Thorson, District Conservation Officer, on July 19.

"We have been getting reports for the last three weeks that Round Lake, better known as North Manistique Lake, has been dynamited as there are thousands of dead fish coming to shore, mostly perch, herring, and bass.

"I was out there this morning and there was a strong north wind and there were lots of fish coming in. I picked up some of the fish that were alive and I am sure that they are affected with some disease as there seems to be some kind of a grub or worm working on them, in most cases this grub seems to be in their head.

"Would you want me to pack some of the fish and send them to Ann Arbor or to yourself? But if you have a man that knows something about fish that you could send up here we might get some good information.

"There are many summer homes and also the new Luce County Park is located on this lake, and the people around here are quite excited about the lake being dynamited and they will always think so unless they are shown that the fish are diseased."

At our suggestion, Mr. Thorson carefully packed and shipped us a sample of the fish, some on ice, others in formaldehyde. These were received August 4, and those on ice were examined at once, by our Fish Pathologist, Wendell H. Krull. Those preserved will be studied for indications of disease as soon as time permits.

Krull's report follows. Briefly, he found rather few parasites, so he suspects the water conditions have had some direct effect on the fish. There is no good evidence that the fish were dynamited. In the first place, the wholesale dynamiting of fish in a large open lake is almost impossible; in the second place, the specimens do not show the effects of dynamiting. The air bladders are not ruptured in the well preserved specimens, and the flesh shows no injury. Therefore we conclude that these fish died from natural causes, either the condition of the water or some disease. The few parasites indicate that if a disease caused the death of these fish, it was probably a bacterial disease. It is almost necessary to have live material to diagnose bacterial diseases of fish, such as those which are causing heavy losses in the hatcheries.

Report by W. H. Krull on examination of the
specimens sent on ice

Shipment consisted of ten perch and two suckers on ice and a two-quart jar of perch in formalin. Fish received August 4, 1930 and examination of fish on ice was made the same day.

The perch varied in size from 70 mm. to 280 mm. Four specimens were in fairly good state of preservation and complete examinations were made.

Externally all fish appeared to be normal, except that the smaller specimens seemed to be laterally compressed in the abdominal region. The smaller specimens were in the poorest state of preservation, the air bladder had collapsed, due to disintegration, and the digestive system was empty. These two factors no doubt, account for the compression mentioned above. Gills had disintegrated in all except the largest specimen. In this fish they were covered with mucus and appeared normal.

The specimens examined had the following lengths respectively,
280 mm., 250 mm., 250 mm., 200 mm. Complete examinations revealed one larval

tapeworm encysted in the spleen of each of two fish, and one fish had 3 larval tapeworm cysts in the liver. In one specimen there were numerous larval trematode cysts around the heart. One fish had a single larval trematode cyst in the flesh.

These perch were rather unusual for the small number of parasites they contained.

All specimens were opened and in every case the digestive system was empty but the supply of fat around the visceral organs was normal.

The two suckers were large, one measuring 500 mm. in length. State of preservation was poor. External appearance was normal, gills were apparently normal. There was no serious parasite infestation. There was food in the digestive tract. Visceral organs were bloody because of the disintegrated condition of the liver.

Carl L. Hubbs.